**MATHEMATICS STAGE 3**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: 1 | WEEK: 4 | STRAND:Whole Number | **SUB-STRAND:**Addition and Subtraction | **WORKING MATHEMATICALLY:**MA3-1WM, MA3-2WM, MA3-3WM |
| OUTCOMES: MA3-5NA | **Selects and applies appropriate strategies for addition and subtraction with counting numbers of any size.**  |
| **CONTENT:**  | **Create simple financial plans (ACAMNA106)**\* use knowledge of addition and subtraction facts to create a financial plan, such as a budget, e.g.: organise a class celebration on a budget of $60 for all expense-Record numerical data in a simple spread sheet (communicating)-Give reasons for selecting, prioritising, and deleting items when creating a budget (Communicating, Reasoning)  |
| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | **Verbal discussion-** students are given $10 and must see what they can buy with that money. The teacher will place some items on the board and the students must work independently attempting to buy as many products with $10.00. Here the teacher will assess the students’ ability to add and subtract decimals as well as their ability to manage money and budget on a small scale. (Communicating, Reasoning) |
| WARM UP / DRILL | Students will complete some **warm up sums in their books.** Students will add and subtract decimals to assist in calculations when budgeting. Once students have completed some written algorithms, the teacher will prompt some mental decimal questions. **What doesn’t belong? Game –** Students will be shown 5 objects on the board and must add different totals. Students must work out which object is making the total go over the budget. For example: Find 5 objects at $10.00. Students must add all 6 objects and find out which one doesn’t belong.  |
| QUALITY TEACHING ELEMENTS | **INTELLECTUALQUALITY** | **QUALITY LEARNINGENVIRONMENT** | **SIGNIFICANCE** |
| * Deep knowledge
* Deep understanding
* Problematic knowledge
* Higher-order thinking
* Metalanguage
* Substantivecommunication
 | * Explicit quality criteria
* Engagement
* High expectations
* Social support
* Students’ self-regulation
* Student direction
 | * Background knowledge
* Cultural knowledge
* Knowledge integration
* Inclusivity
* Connectedness
* Narrative
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| RESOURCES | Budget Format (Attached), maths books, pens, pencils , calculators <http://www.primaryresources.co.uk/maths/mathsD2.htm><http://www.moneyandstuff.info/lessons/2BBudgetingLesson_Allowance.pdf><http://www.moneyandstuff.info/pdfs/SampleBudgetforKids.pdf> |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTIONMODELLED ACTIVITIES | GUIDED &INDEPENDENT ACTIVITIES |
| * **Explicitly communicate lesson outcomes and work quality.**
* Teacher begins by **questioning** students. When do we use adding and subtracting in real life contexts? Why must we know how to budget? When would we need budget? Where have you seen a budget before? (mind map) Show sample budget explanation

<http://www.moneyandstuff.info/pdfs/SampleBudgetforKids.pdf>* Together as a class complete a **joint budget for a class party.** Here the teacher will establish some prices and give the students a round number. Whole numbers may need to be used for some students instead of decimals, depending on ability level. Together the teacher and class will discuss what is needed, the quantity, price and budget. Students record in their books
* Together as a class visit a computer room or use laptops to explore the use of a digital **spreadsheet.** The teacher will give the students a scenario where students must add and subtract various items and record these actions in a Microsoft excel spreadsheet. The teacher will need to model how to use Microsoft excel. The teacher may choose to model various spreadsheet samples (both digital and hard copies)
 | LEARNING SEQUENCERemediationS2 | * Students will work with smaller budgets, digits and quantities
* Use whole numbers in addition and subtraction
* More structured tasks- not as open-ended
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| LEARNING SEQUENCES3 | * Students will begin working through a variety of **maths money activities** as selected by the teacher or chosen by the student.

<http://www.primaryresources.co.uk/maths/mathsD2.htm>* **Let’s go shopping-**In pairs students will visit some supermarket websites (catalogues may be used if access to technology is limited). They will be given a grocery list (items listed on the board by the teacher) and must search the internet using computers or i-pads to find prices. Students will add together their prices and create a written budget *(see format attached).* In pairs students will be given a budget of $100. They must record their items and prices and use addition and subtraction to complete the form. Compare and discuss at the conclusion of the lesson.
* **How to Budget-**The teacher will place the students in small groups to work through a number of budgeting scenarios. These scenarios and supporting lessons can be found at <http://www.moneyandstuff.info/lessons/2BBudgetingLesson_Allowance.pdf> (see hardcopy attached). The teacher will model how to complete the first budget scenario before allowing each group to add and subtract and use a budgeting format. The groups may swap scenarios a few times before comparing and sharing their findings. They must record their budget unto a spreadsheet designed independently (assessment)
* **Understanding Budgets-** Students will work through independently a series of budgeting worksheets found at ‘Hands on Banking-Kids version’ see attached- The students will read the sheets and independently use addition and subtraction to present the findings to the teacher – may also be used as an assessment
* **My Budget-** Students can choose an open-ended activity- for example: room renovation, birthday party, new restaurant, building a house etc. Using their knowledge and scaffolded sheets, the students will research prices and quantities, complete a written proposal for their room renovation, birthday party, new restaurant etc and carry out a budget project- designed and explained by the teacher –could also be used as an assessment. The students will be made aware of the expected outcomes and must show evidence of this in their working.
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| LEARNING SEQUENCEExtension Early S4 | * More open-ended tasks with larger numbers- could be completed in groups
* Use decimals with two decimal places
* Incorporate multiplication and division into the budgeting process as well as addition and subtraction.
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| **EVALUATION &REFLECTION** | **Student engagement:** **Achievement of Outcomes:****Resources:** **Follow up:** |

* All assessment tasks should be written in **red** and planning should be based around developing the skills to complete that task.
* Assessment rubrics or marking scale should be considered.